CLAIMS

We claim:

1. A method comprising:
forming a first layer on a substrate;
forming a second layer on the first layer;
removing at least a portion of the first layer; and
allowing the first layer to strain the second layer.

2. The method of Claim 1, further comprising:
forming a gate electrode on the second layer.

3. The method of Claim 2, wherein the first layer and the second layer are formed in a channel region beneath the gate electrode.

4. The method of Claim 2, further comprising:
forming a first spacer adjacent to a first side of the gate electrode; and
forming a second spacer adjacent to a second side of the gate electrode.

5. The method of Claim 4, wherein the first layer and the second layer are formed in a channel region beneath the gate electrode and the first and second spacers.

6. The method of Claim 1, further comprising:
forming a first source/drain region in a first area from which a portion of the first layer was removed; and
forming a second source/drain region in a second area from which a portion of the first layer was removed.

7. A method comprising:
forming a silicon germanium layer on a substrate;
forming a silicon layer on the silicon germanium layer;

removing at least a portion of the silicon germanium layer; and

allowing the silicon germanium layer to strain the silicon layer.

8. The method of Claim 7, further comprising:

forming a gate electrode on the silicon layer.

9. The method of Claim 8, wherein the silicon germanium layer and the silicon layer are formed in a channel region beneath the gate electrode.

10. The method of Claim 8, further comprising:

forming a first spacer adjacent to a first side of the gate electrode; and

forming a second spacer adjacent to a second side of the gate electrode.

11. The method of Claim 10, wherein the silicon germanium layer and the silicon layer are formed in a channel region beneath the gate electrode and the first and second spacers.

12. The method of Claim 7, further comprising:

forming a first source/drain region in a first area from which a portion of the silicon germanium layer was removed; and

forming a second source/drain region in a second area from which a portion of the silicon germanium layer was removed.

13. A method comprising:

forming a silicon carbide layer on a substrate;

forming a silicon layer on the silicon carbide layer;

removing at least a portion of the silicon carbide layer; and

allowing the silicon carbide layer to strain the silicon layer.

14. The method of Claim 13, further comprising:

forming a gate electrode on the silicon layer.

15. The method of Claim 14, wherein the silicon carbide layer and the silicon layer are formed in a channel region beneath the gate electrode.

16. The method of Claim 14, further comprising:

forming a first spacer adjacent to a first side of the gate electrode; and

forming a second spacer adjacent to a second side of the gate electrode.

17. The method of Claim 16, wherein the silicon carbide layer and the silicon layer are formed in a channel region beneath the gate electrode and the first and second spacers.

18. The method of Claim 13, further comprising:

forming a first source/drain region in a first area from which a portion of the silicon carbide layer was removed; and

forming a second source/drain region in a second area from which a portion of the silicon carbide layer was removed.

19. An apparatus comprising:

a substrate;

a strain-inducing layer disposed on the substrate; and

a strained layer disposed on the strain-inducing layer.

20. The apparatus of Claim 19, further comprising:

a gate electrode disposed on the strained layer;

a first spacer disposed adjacent to a first side of the gate electrode; and

a second spacer disposed adjacent to a second side of the gate electrode.

21. The apparatus of Claim 20, wherein the strain-inducing layer and the strained layer are disposed in a channel region beneath the gate electrode.

22. The apparatus of Claim 21, wherein the strain-inducing layer and the strained layer are disposed in a channel region beneath the gate electrode and the first and second spacers.

23. The apparatus of Claim 19, wherein the apparatus comprises:

an n-type metal oxide semiconductor.

24. The apparatus of Claim 23, wherein the strain-inducing layer comprises:

silicon germanium.

25. The apparatus of Claim 24, wherein germanium comprises between approximately 20 and 25 percent of the silicon germanium.

26. The apparatus of Claim 24, wherein the silicon germanium layer has a thickness of between approximately 400 and 500 Å.

27. The apparatus of Claim 26, wherein the strained layer comprises silicon and has a thickness of between approximately 100 and 200 Å.

28. The apparatus of Claim 19, wherein the apparatus comprises:

a p-type metal oxide semiconductor.

29. The apparatus of Claim 28, wherein the strain-inducing layer comprises:

silicon carbide.

30. The apparatus of Claim 29, wherein carbon comprises between approximately 1 and 2 percent of the silicon carbide.

31. A system comprising:

an integrated circuit package comprising

a substrate,

a strain-inducing layer disposed on the substrate, and

a strained layer disposed on the strain-inducing layer.

32. The system of Claim 31, wherein the system comprises:

an n-type metal oxide semiconductor.

33. The system of Claim 32, wherein the strain-inducing layer comprises:

silicon germanium.

34. The system of Claim 33, wherein germanium comprises between approximately 20 and 25 percent of the silicon germanium.

35. The system of Claim 31, wherein the system comprises:

a p-type metal oxide semiconductor.

36. The system of Claim 35, wherein the strain-inducing layer comprises:

silicon carbide.

37. The system of Claim 36, wherein carbon comprises between approximately 1 and 2 percent of the silicon carbide.